User's Manual
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USB Fieldbus Interface

User's Manual

EMERSON
Process Management

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1 Introduction

This manual guides you in using the USB Fieldbus Interface (interface) to power and/or configure fieldbus devices. Included here are basic setup, configuration, and troubleshooting information, as well as guidelines on how to use the interface with AMS Suite: Intelligent Device Manager and with a third-party FDT Frame Application.

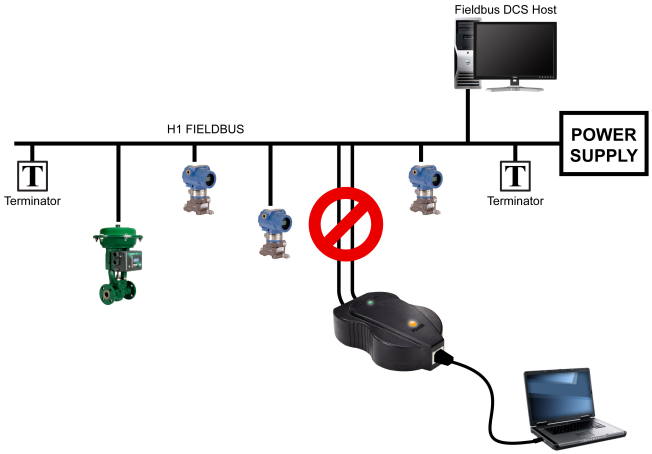
This manual is divided into the following sections:

- **Chapter 1: Introduction** – contains safety messages and information about this manual.
- **Chapter 2: USB Fieldbus Interface** – contains information about the interface, its parts, usage, and features.
- **Chapter 3: Software installation and device setup** – contains system requirements, software installation instructions, and device setup information.
- **Chapter 4: Fieldbus Interface Configuration utility** – contains information on how to use the utility to power, commission, and/or configure some parameters of fieldbus devices.
- **Chapter 5: Using with AMS Device Manager** – contains setup information and instructions in using the interface with AMS Device Manager to configure fieldbus devices.
- **Chapter 6: Using with an FDT Frame Application** – contains setup information and instructions in using the interface with an FDT Frame Application to configure fieldbus devices.
- **Chapter 7: Troubleshooting** – contains solutions to the most common operating problems.
- **Appendix A: Approvals and certifications** – contains certifications and approval information.
- **Appendix B: Specifications** – contains specifications such as operating temperature, software, electrical information, and environmental considerations.
- **Appendix C: Waste disposal** – contains the interface disposal guidelines.
- **Appendix D: Install drivers manually** – contains instructions on how to install drivers manually should they fail to install automatically for Windows XP operating systems.
- **Appendix E: Disable driver signature enforcement in Windows 8.0 and 8.1** – contains information on how to disable driver signature enforcement on Windows 8.0 and 8.1 operating systems.
- **Appendix F: Remove pre-release driver versions on a Windows XP operating system** – contains instructions on how to remove previous driver versions.

1.1 Safety message

⚠ WARNING!

Do not connect the USB Fieldbus Interface to a *live* segment (with an active DCS Host and power supply attached) if the power indicator light on the interface is amber in color. Doing so can disrupt communications and may compromise automation safety.



2 USB Fieldbus Interface

Topics covered in this chapter:

- *Overview*
- *Parts and function*
- *Power modes*

2.1 Overview

The USB Fieldbus Interface enables two-way communication between a computer and fieldbus devices. Its primary function is to allow the setup, configuration, monitoring, and troubleshooting of fieldbus devices through a computer.

The interface is fully compatible with all FOUNDATION fieldbus (FF) devices and is always configured as a "visitor."

Features
Compliant with USB 1.1 and USB 2.0 specifications
Works with standard USB cables
Can detect a Link Active Scheduler (LAS) and will take over as a LAS if it is not present on the segment
Can be connected to any fieldbus segment containing a FOUNDATION fieldbus device
Has software support for both Device Descriptors (DDs) and FDT Device Type Managers (DTMs)

It is particularly useful in these plant scenarios:

- Workbench setup and troubleshooting of fieldbus devices
- With a laptop in the field to configure, commission, decommission, or troubleshoot fieldbus devices

The USB Fieldbus Interface comes with a USB cable, lead set, user's manual*, and installation CD*.

Figure 2-1: Box contents

* *The user's manual and installation CD are not included in the illustration.*

2.2 Parts and function

Figure 2-2: USB Fieldbus Interface

1	***Field connection indicator light*** (*)	*Indicates the fieldbus device connection status*
2	***Power indicator light*** (*)	*Indicates the power mode of the interface*
3	***USB port***	*Enables USB connection*
4	***Fieldbus device connection socket***	*Enables fieldbus device or segment connection*

(*) *See the Indicator light scenarios table.*

Table 2-1: Indicator light scenarios

Power indicator light	Field connection indicator light	Scenarios
Normal scenarios		
Green	Green	The USB Fieldbus Interface is connected to an externally powered segment and is able to communicate.
Amber	Green	The USB Fieldbus Interface is providing power to a fieldbus segment and is able to communicate.
Other scenarios		
Off	Off	The USB Fieldbus Interface is not connected to a powered computer. ***-OR-*** The USB Fieldbus Interface is connected to a computer but the computer power is off. ***-OR-*** The USB FF HSE Server is not running on the connected computer.
Green	Off	The USB Fieldbus Interface is not connected to a powered segment. ***-OR-*** The USB Fieldbus Interface is connected to a powered segment with the wrong polarity.
Off	Green	The USB Fieldbus Interface is connected normally to a powered segment but the USB FF HSE Server is not running.
Amber	Red	The USB Fieldbus Interface is providing power but a short circuit has been detected on the field connection.
Amber	Off	The USB Fieldbus Interface is providing power and connected to an already powered fieldbus segment with reverse polarity.
Amber	Amber	The USB Fieldbus Interface is providing power to a fieldbus segment and the load on that segment has exceeded its limit.

2.3 Power modes

The USB Fieldbus Interface is capable of working in two power modes:

- **Mode 1** - The interface does not supply power to the connected fieldbus device or segment. The fieldbus device or segment is powered by an external source.

  Mode 1 is the default.

- **Mode 2** - The interface powers the connected fieldbus device or segment and no external power is needed.

  The interface is capable of powering multiple devices on a fieldbus segment through an external USB hub. It can provide current of up to 85 mA (typically sufficient for three or four fieldbus devices on the same segment).

  You can configure Mode 2 using the Fieldbus Interface Configuration utility. For more information, see *Section 4.2*.

⚠ WARNING!

Choose only one power mode. Never attempt to use two power sources at the same time. Doing so can disrupt communications and may compromise automation safety.

3 Software installation and device setup

Topics covered in this chapter:

- *System requirements*
- *Install the Fieldbus Interface Configuration utility*
- *Install the Communication DTM software*
- *Install the Emerson DTM Library*
- *Setup and connection*
- *Connect to a live fieldbus segment*

Perform software installation and device setup in the following order:

1. **Install the Fieldbus Interface Configuration utility.**

   This allows you to configure the USB Fieldbus Interface and connected fieldbus devices.

2. **Install the Communication DTM software.**

   This enables DTM support for connected fieldbus devices.

3. **Install the Emerson DTM Library.**

   This allows you to use DTMs associated with Emerson devices through an FDT Frame Application.

   Note

   Device DTMs are usually acquired from device suppliers. Contact your device supplier if you have a non-Emerson device and install the appropriate third-party DTM library.

4. **Set up and configure connected fieldbus devices.**

3.1 System requirements

Supported operating systems
Windows 8.0 and 8.1
Windows 7 (32- or 64-bit)
Windows XP Home or Professional (32-bit) SP3
Hard disk space
At least 500MB
Hardware
USB 1.1 or USB 2.0 port

3.2 Install the Fieldbus Interface Configuration utility

Notes

- Do not connect the USB Fieldbus Interface to the computer or to a fieldbus device or segment until software installation is complete.
- You may be prompted to determine the operating system and the Windows version (32-bit or 64-bit) running on your computer. Keep this information handy.
- You may not be able to install drivers that are not signed by Microsoft on some Windows 8.0 and 8.1 operating systems. To override this requirement, see *Appendix E*.

1. Insert the USB Fieldbus Interface installation CD into the CD drive of your computer.

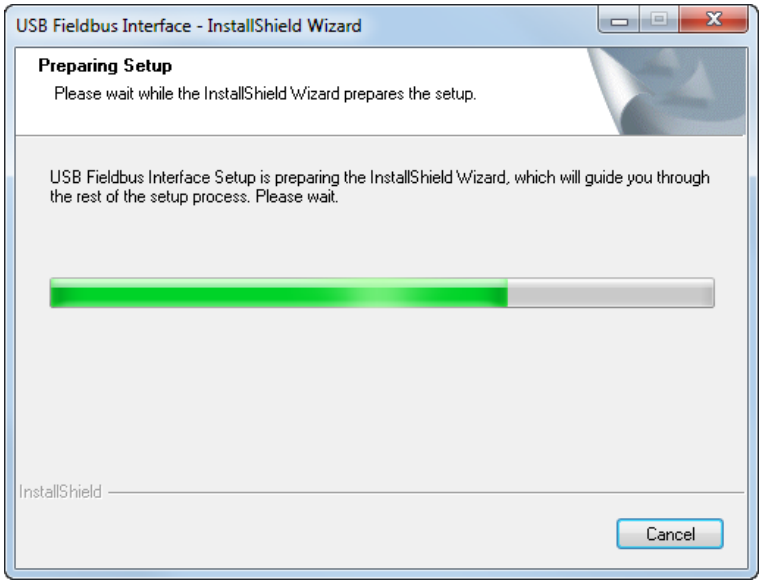
   Software and driver installation should start automatically.

   If AutoRun is not enabled, double-click setup.exe.

   Should driver installation fail to start automatically, you will be prompted to install it manually. Follow the procedure in *Appendix D*.

2. Follow the prompts on the installation window.

Figure 3-1: Fieldbus Interface Configuration utility installation


USB Fieldbus Interface - InstallShield Wizard
Preparing Setup
Please wait while the InstallShield Wizard prepares the setup.
USB Fieldbus Interface Setup is preparing the InstallShield Wizard, which will guide you through the rest of the setup process. Please wait.
InstallShield
Cancel

3. Click Finish when done.

3.3 Install the Communication DTM software

1. Insert the USB Fieldbus Interface installation CD into the CD drive of your computer.
2. Navigate to the Emerson USB Fieldbus Interface DTM folder and double-click Setup.exe.
3. Click Next and follow the prompts on the installation window.

Figure 3-2: Communication DTM installation

Emerson USB Fieldbus Interface DTM - InstallShield Wizard
Fieldbus Foundation
www.softing.com
Welcome to the InstallShield Wizard for Emerson USB Fieldbus Interface DTM
The InstallShield(R) Wizard will install Emerson USB Fieldbus Interface DTM on your computer. To continue, click Next.
WARNING: This program is protected by copyright law and international treaties.
softing
your connection to excellence
< Back
Next >
Cancel

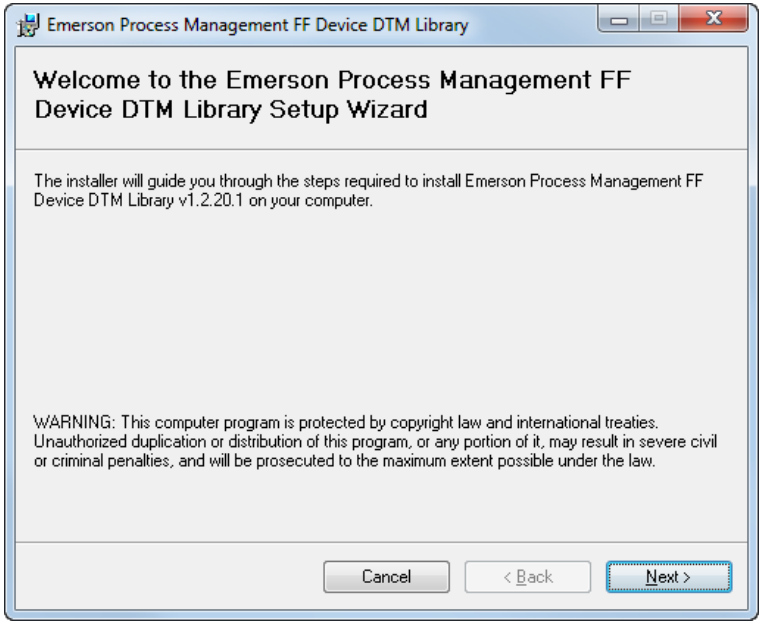
4. Click Finish when done.

3.4 Install the Emerson DTM Library

1. Insert the USB Fieldbus Interface installation CD into the CD drive of your computer.
2. Navigate to the Emerson DTM Library folder.

   The DTM library folder is typically named "Emerson Process Management FF Device DTM Library v1.x.x".
3. Double-click Setup > Setup.exe.
4. Click Next and follow the prompts on the installation window.

Figure 3-3: Emerson DTM Library installation


Emerson Process Management FF Device DTM Library
Welcome to the Emerson Process Management FF Device DTM Library Setup Wizard
The installer will guide you through the steps required to install Emerson Process Management FF Device DTM Library v1.2.20.1 on your computer.
WARNING: This computer program is protected by copyright law and international treaties. Unauthorized duplication or distribution of this program, or any portion of it, may result in severe civil or criminal penalties, and will be prosecuted to the maximum extent possible under the law.
Cancel
< Back
Next >

5. Click Close when done.

3.5 Setup and connection

Note

Install the Fieldbus Interface Configuration utility first before setting up and connecting the USB Fieldbus Interface. For more information, see *Section 3.2*

1. Connect the USB Fieldbus Interface to the computer using the USB cable provided.

   Driver installation should start automatically.

   If automatic driver installation fails, you need to manually install drivers. For instructions, see *Appendix D*.

2. Connect the interface to a fieldbus device or to a fieldbus segment using the field leads.

   ⚠ WARNING!

   Do not proceed to the next step if you are connecting to a *live* (powered) segment. Providing additional power source to an already powered segment can disrupt communications and may compromise automation safety.

3. Power the connected fieldbus device or segment.

   Connect the fieldbus device or the unpowered segment to an external power source (Mode 1), or provide power using the Fieldbus Interface Configuration utility (Mode 2). For more information on the power modes, see *Section 2.3*.

Figure 3-4: Sample benchtop connection

3.6 Connect to a live fieldbus segment

⚠ WARNING!

Do not use the Provide Power option on the Fieldbus Interface Configuration utility when connecting to a live segment. Doing so can disrupt communications and may compromise automation safety.

1. Make sure the USB Fieldbus Interface is connected to the computer and that all software and drivers are installed.
2. Plug one end of the field lead to the fieldbus device connection socket of the interface and connect the other end to the live fieldbus segment.

Notes

- The USB Fieldbus Interface draws current of 10 mA from the segment. Make sure the segment has enough power and has the capacity to provide this additional current.
- Make sure the lead set is connected to the live fieldbus segment with the correct polarity.
- Commissioning, decommissioning, and changing the device tag/address are not allowed for fieldbus devices connected to a live segment.

4 Fieldbus Interface Configuration utility

Topics covered in this chapter:

- *Launch the Fieldbus Interface Configuration utility*
- *Power fieldbus devices*
- *Commission fieldbus devices*
- *Decommission fieldbus devices*
- *Change the device class*
- *Start or stop the USB FF HSE Server manually*

4.1 Launch the Fieldbus Interface Configuration utility

- Click Start > All Programs > Emerson Process Management > USB Fieldbus Interface > USB Fieldbus Interface.

or

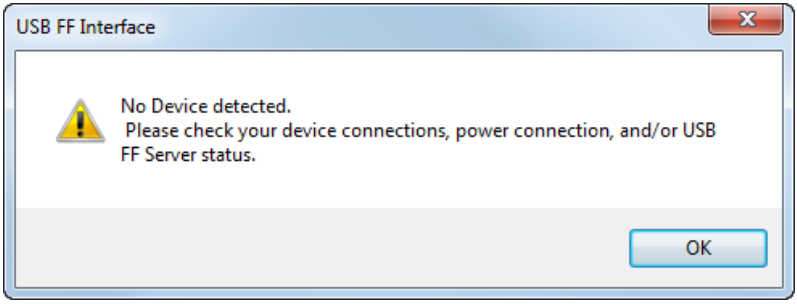
- Double-click the USB Fieldbus Interface desktop shortcut.

  This is only available when you have selected the desktop icon option during software installation.

Note

If no fieldbus device is detected after 30 seconds, this dialog is displayed. Click OK to continue.

Figure 4-1: No device detected dialog


USB FF Interface
No Device detected.
Please check your device connections, power connection, and/or USB FF Server status.
OK

A connected fieldbus device or segment has to be powered by an external power source or be provided power by the Fieldbus Interface Configuration utility for it to be detected. For more information, see *Section 7.2*.

4.2 Power fieldbus devices

You can power a fieldbus device or segment by connecting it to an external power source or by using the Fieldbus Interface Configuration utility.

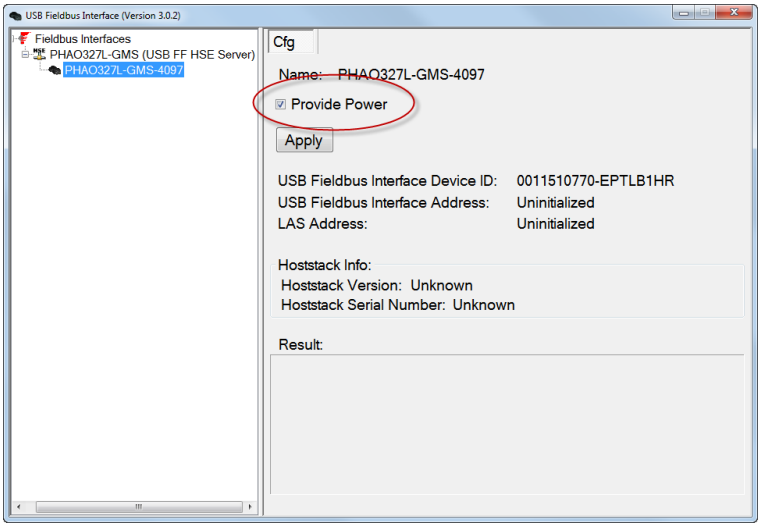
The following steps detail how to use the Fieldbus Interface Configuration utility to power fieldbus devices.

1. Launch the Fieldbus Interface Configuration utility.
2. Click the USB Fieldbus Interface icon in the tree view.
3. Select the Provide Power check box.

Note

The USB Fieldbus Interface is only capable of providing an output current of up to 85 mA. Typically, you should not attempt to connect more than three or four fieldbus devices on the same segment when using the Provide Power option.

Figure 4-2: Provide Power option



⚠ WARNING!

Do not use the Provide Power option on a live (already powered) segment. Doing so can disrupt communications and may compromise automation safety.

4. Click OK to acknowledge the warning.
5. Click Apply.
6. Select Yes to restart the USB FF HSE Server and use the new setting.

4.3 Commission fieldbus devices

Commissioning sets the fieldbus device address to a valid permanent address and sets the device tag to a valid string.

Notes

- You need to commission fieldbus devices first before you can use them with AMS Device Manager or with an FDT Frame Application.
- Fieldbus devices on a *live* segment cannot be commissioned.

1. Launch the Fieldbus Interface Configuration utility.
2. Under the USB Fieldbus Interface icon, select the fieldbus device you want to configure.

   Note

   A connected fieldbus device or segment should be powered by an external power source or be provided power by the Fieldbus Interface Configuration utility for it to be detected.

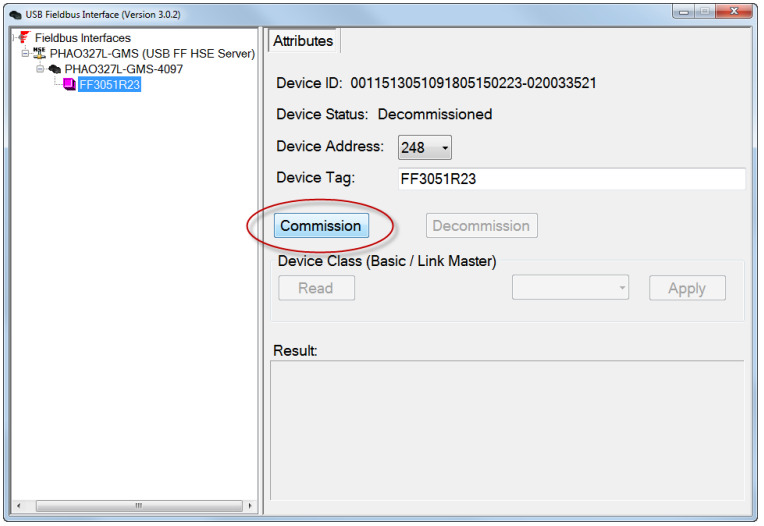
3. Optionally, select a permanent device address from 20 to 38. Otherwise, the first available address is assigned.

   Note

   The utility only accepts device addresses in the range of 20 through 38.

4. Optionally, enter a device tag.
5. Click Commission.

Figure 4-3: Commission



Note

The commissioning process takes about 1 to 2 minutes to complete.

6. Repeat steps 2 through 5 for each device you want to commission.

4.4 Decommission fieldbus devices

Decommissioning sets the fieldbus device address to a temporary address.

Note

Fieldbus devices on a *live* segment cannot be decommissioned.

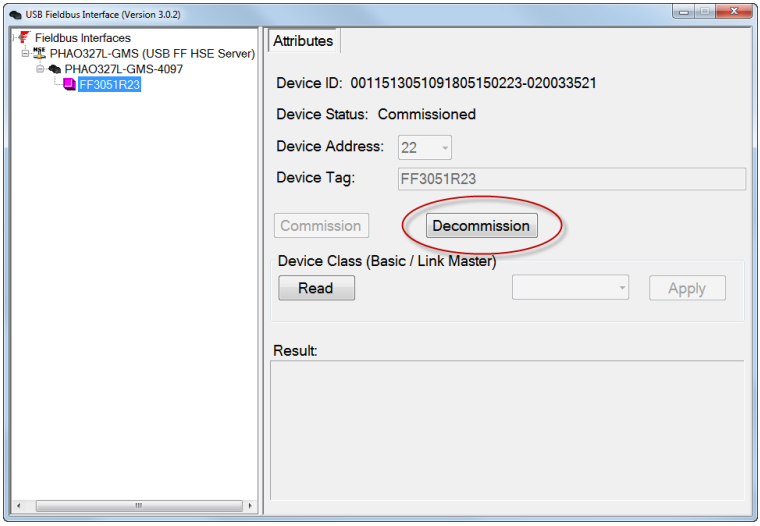
1. Launch the Fieldbus Interface Configuration utility.
2. Under the USB Fieldbus Interface icon, select the fieldbus device you want to configure.

Note

A connected fieldbus device or segment should be powered by an external power source or be provided power by the Fieldbus Interface Configuration utility for it to be detected.

3. Click Decommission.

Figure 4-4: Decommission



4. Determine if the fieldbus device was commissioned on another host, then select Yes or No.
   - If you choose Yes, the decommissioning proceeds.
   - If you choose No, you cannot decommission the device. Decommissioning is not allowed for devices commissioned on another host.
5. Repeat steps 2 through 4 for each device you want to decommission.

4.5 Change the device class

A connected fieldbus device can be assigned as a Link Master (LM) or as a basic device. A Link Master contains the LAS functionality that controls communications on a fieldbus link or segment.

1. Launch the Fieldbus Interface Configuration utility.
2. Under the USB Fieldbus Interface icon, select the fieldbus device you want to configure.

Note

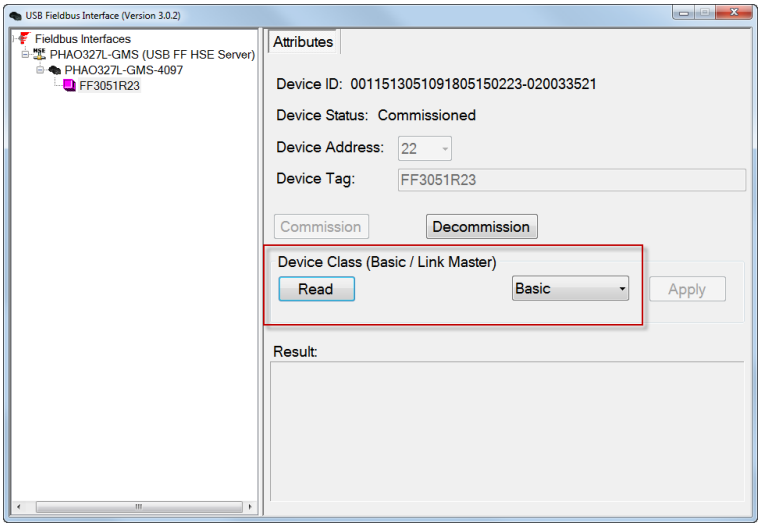
A connected fieldbus device or segment should be powered by an external power source or be provided power by the Fieldbus Interface Configuration utility for it to be detected.

3. From the Device Class section, click Read to identify if the fieldbus device is a Link Master or a basic device.

Note

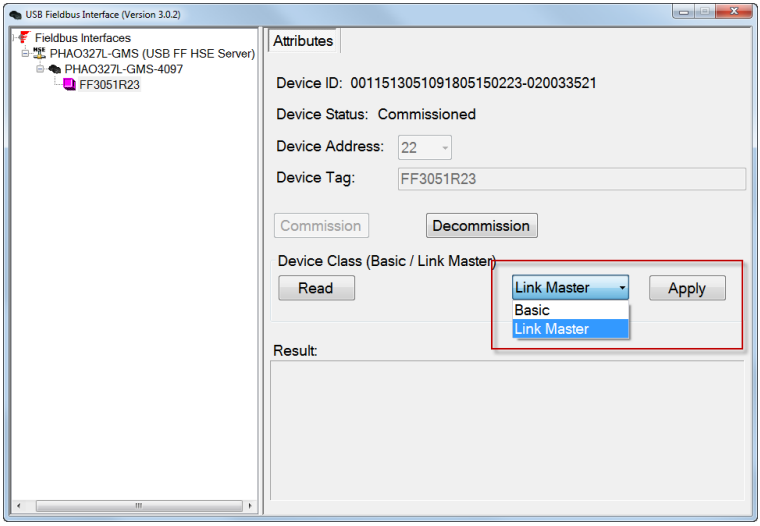
Only the device class of a commissioned fieldbus device can be identified. For more information on commissioning a device, see *Section 4.3*.

Figure 4-5: Identify the device class



4. Switch to Basic or Link Master from the drop-down menu and click Apply.

Figure 4-6: Change the device class



5. Click Yes to acknowledge the restart of the device.
6. Click OK to continue.

Note

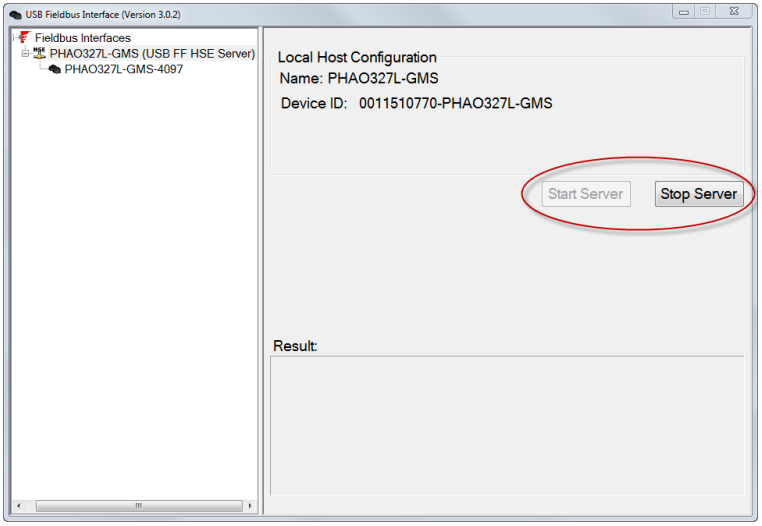
Changing the device class takes about 1 minute to complete.

4.6 Start or stop the USB FF HSE Server manually

The USB FF HSE Server automatically starts when you launch the Fieldbus Interface Configuration utility. It is typically *not* necessary to start or stop the USB FF HSE Server manually.

1. Launch the Fieldbus Interface Configuration utility.
2. Click the USB FF HSE Server icon in the tree view.
3. Click Start Server or Stop Server.

Figure 4-7: Start Server/Stop Server



Note

The USB FF HSE Server should be running in order to use the Fieldbus Interface Configuration utility to power or configure a fieldbus device or segment.

5 Using with AMS Device Manager

Topics covered in this chapter:

- *Add a network component in AMS Device Manager*
- *Configure fieldbus devices in AMS Device Manager*

AMS Device Manager provides a single application for predictive diagnostics, documentation, calibration management, and device configuration. Using AMS Device Manager gives you better visibility into the assets in your plant, resulting in faster startup and increased availability through more cost-effective maintenance and improved asset performance.

Contact your Emerson Sales/Support representative for more information on AMS Device Manager.

5.1 Add a network component in AMS Device Manager

An FF HSE network component has to be present in order to use the USB Fieldbus Interface with AMS Device Manager.

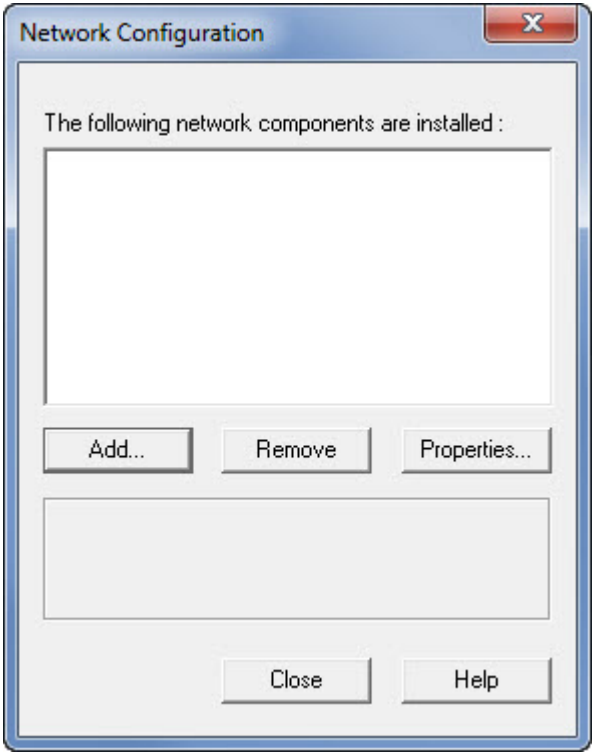
Notes

- If there is an existing FF HSE network configured for another fieldbus device, you do *not* need to add a new FF HSE network component.
- You must have an updated license file that includes an HSE license. The HSE license enables you to add an FF HSE network component in AMS Device Manager.

  If you do not yet have an HSE license, contact your Emerson sales representative and place an order for part number AW7060HSE.

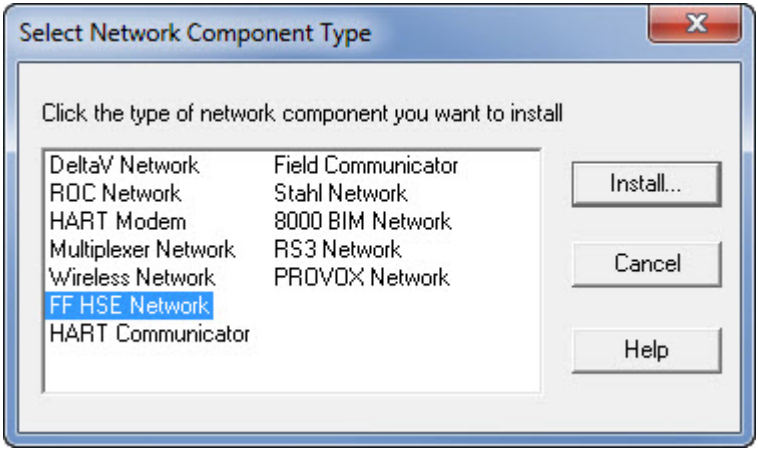
1. Click Start > All Programs > AMS Device Manager > Network Configuration to open the AMS Device Manager Network Configuration utility.
2. Click Add.

Figure 5-1: Add a network component



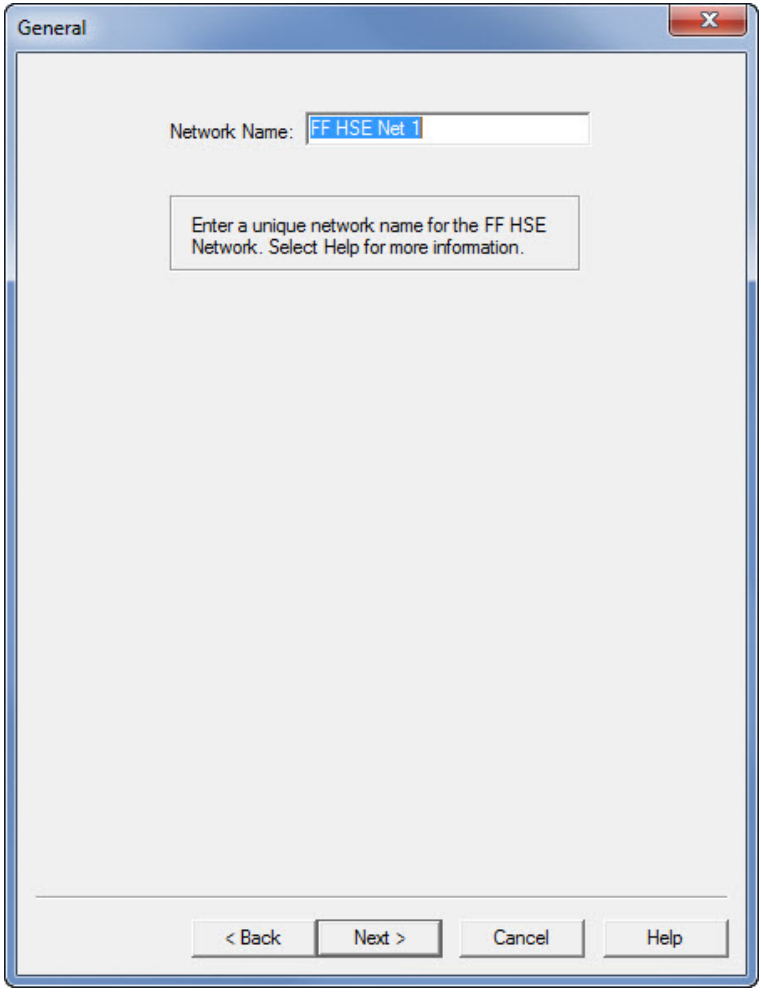
3. Select the FF HSE Network component, and click Install.

Figure 5-2: Install an FF HSE network component



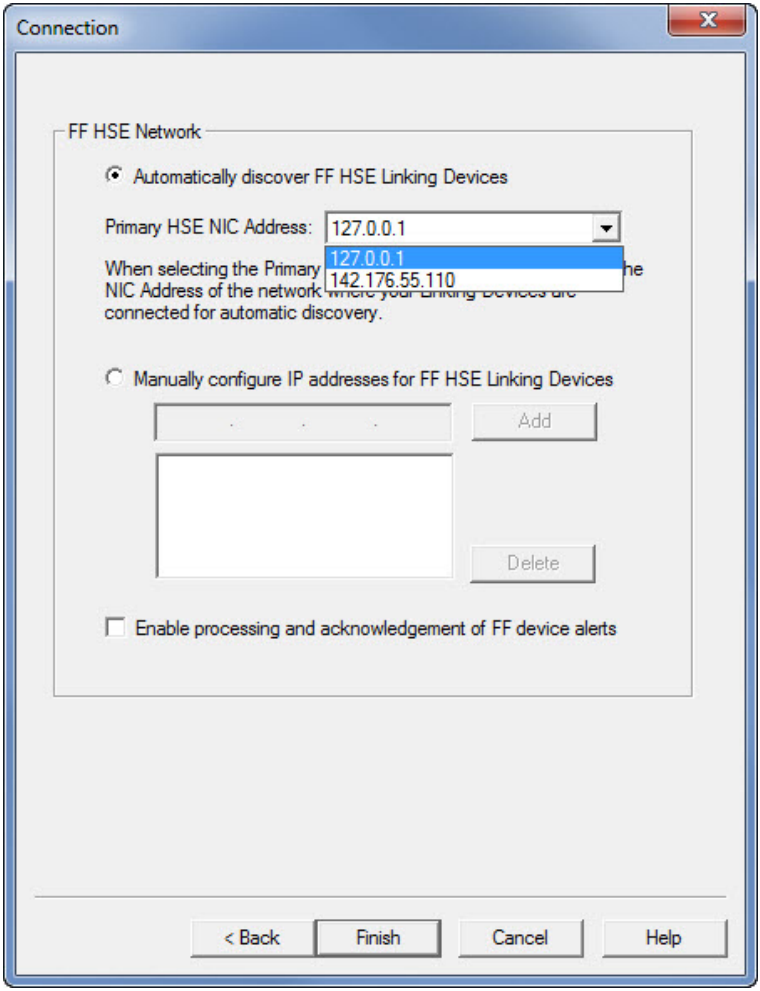
4. Click Next to proceed.
5. Enter a name for the FF HSE network, and click Next.

Figure 5-3: Enter a network name


General
Network Name:
FF HSE Net 1
Enter a unique network name for the FF HSE Network. Select Help for more information.
< Back
Next >
Cancel
Help

6. Choose to automatically discover FF HSE linking devices or manually configure IP addresses for FF HSE linking devices.

Figure 5-4: Configure the network connection



Notes

- Choosing the PC NIC address in the Primary HSE NIC Address field displays the USB Fieldbus Interface and any local FF HSE interfaces on the network in the AMS Device Manager hierarchy.
- Choosing the localhost address (127.0.0.1) in the Primary HSE NIC Address field displays only the USB Fieldbus Interface in the AMS Device Manager hierarchy.
- Manually entering IP addresses displays manually entered FF HSE networks and the USB Fieldbus Interface in the AMS Device Manager hierarchy.
- The USB Fieldbus Interface does not support FF device alerts.

7. Click Finish when done.

5.2 Configure fieldbus devices in AMS Device Manager

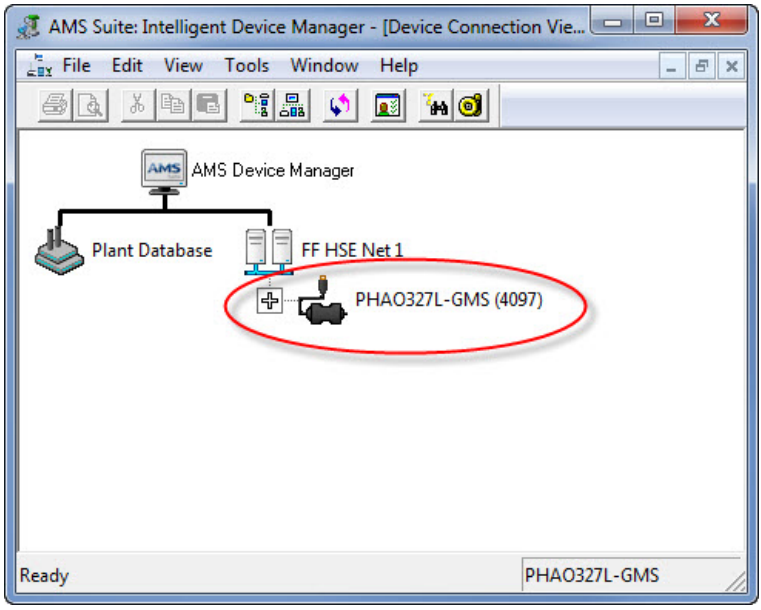
Note

Commission fieldbus devices first in the Fieldbus Interface Configuration utility before configuring them in AMS Device Manager. For more information, see *Section 4.3*.

1. Click Start > All Programs > AMS Device Manager > AMS Device Manager to open AMS Device Manager.
2. Enter your username and password, and click OK.
3. From the Device Connection or Device Explorer view, right-click the FF HSE network icon and select Rebuild Hierarchy.

   The USB Fieldbus Interface icon then appears under the FF HSE network.

Figure 5-5: USB Fieldbus Interface icon in AMS Device Manager

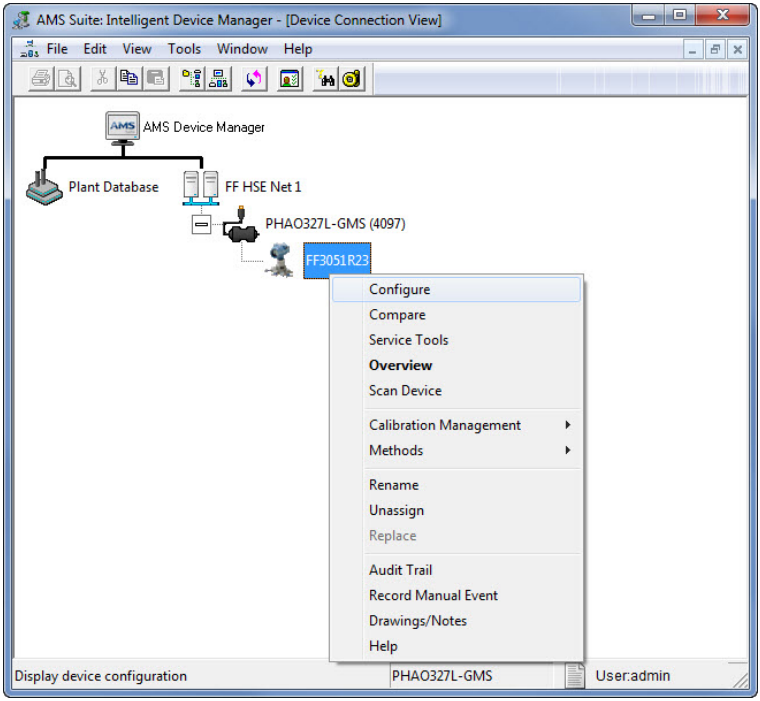


4. If you are using the Device Connection View, click the sign next to the USB Fieldbus Interface icon to display a list of connected fieldbus devices.
5. If necessary, right-click the USB Fieldbus Interface icon and then scan new devices.

Scanning synchronizes the AMS Device Manager database with connected live devices.

6. Right-click the fieldbus device you want to configure and select from the context menus.

Figure 5-6: Fieldbus device context menus



Configure	Displays configuration parameters that define the physical attributes and operating characteristics of the device.
Compare	Lets you compare two configurations of the device.
Service Tools or Device Diagnostics	Displays alert conditions. These include hardware and software malfunctions or parameters with values beyond the device specifications.
Overview or Process Variables	Displays the current output from the device.

For more information about the context menus and other AMS Device Manager functions, refer to *AMS Device Manager Books Online*.

6 Using with an FDT Frame Application

Topics covered in this chapter:

- *Install an FDT Frame Application*
- *Update the DTM library*
- *Configure fieldbus devices in an FDT Frame Application*

You can also configure fieldbus devices using third-party FDT Frame Applications. For the purpose of this document, PACTware is used as an example. PACTware can be downloaded from multiple sites on the Internet.

6.1 Install an FDT Frame Application

Note

Install the Communication DTM software and the Emerson DTM Library first before installing an FDT Frame application. For instructions, see *Section 3.3* and *Section 3.4*.

To be able to view DTMs associated with a device, an FDT Frame Application should be installed. Follow the manufacturer's recommended software installation instructions.

For the purpose of this document, PACTware is used.

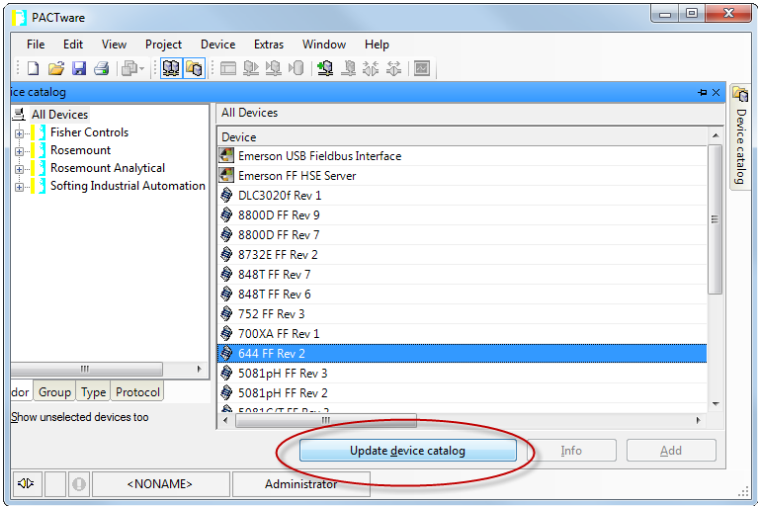
6.2 Update the DTM library

Note

You only need to update the DTM library when a new DTM is recently added.

1. Launch PACTware.
2. Press F3 to show the Device catalog and click Update device catalog.

Figure 6-1: Update device catalog



3. Click Yes when prompted to create a new PACTware device catalog.
4. Close the device catalog when done.

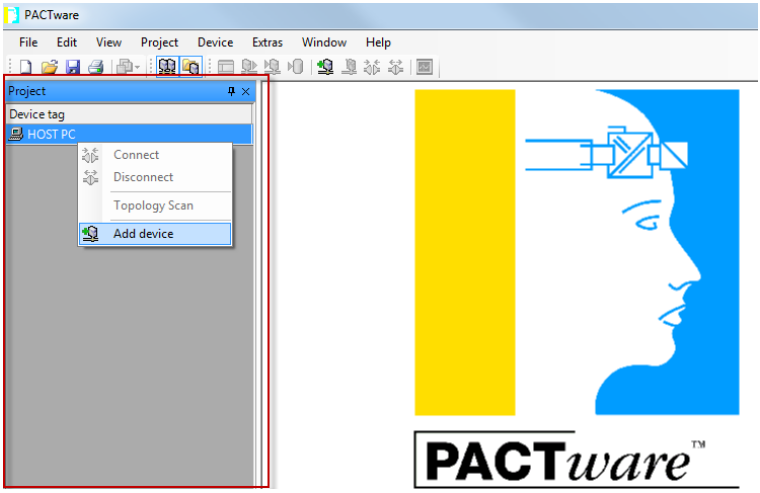
6.3 Configure fieldbus devices in an FDT Frame Application

Notes

- Install the Communication DTM software and the DTM Library first before configuring fieldbus devices in an FDT Frame Application. For more information, see *Section 3.3* and *Section 3.4*.
- If necessary, update the DTM library. For more information, see *Section 6.2*.
- Make sure the USB Fieldbus Interface and fieldbus devices are correctly set up and that the Fieldbus Interface Configuration utility is installed and running. For more information, see *Section 3.5* and *Chapter 4*.

1. Launch PACTware.
2. From the Project pane, right-click HOST PC and click Add device.

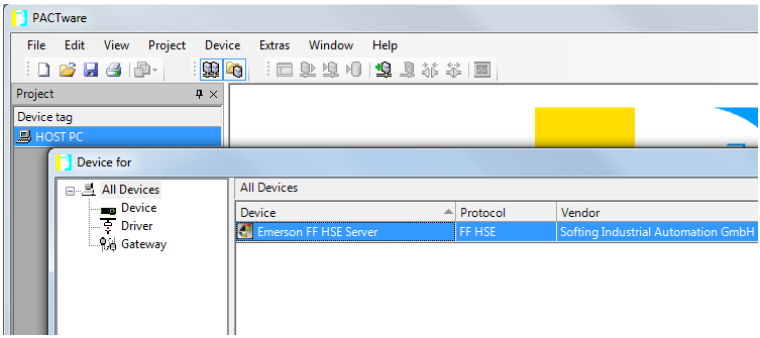
Figure 6-2: Project pane



Press F2 to display the Project pane if it is not already displayed.

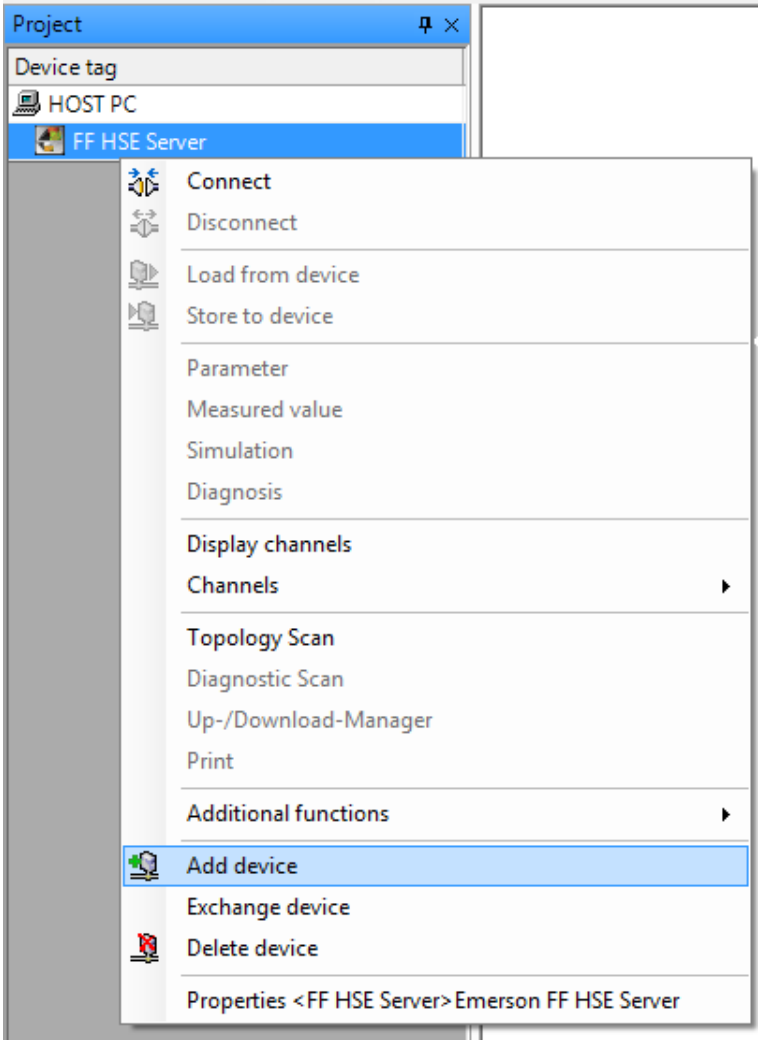
3. Select Emerson FF HSE Server and click OK.

Figure 6-3: Add the Emerson FF HSE Server



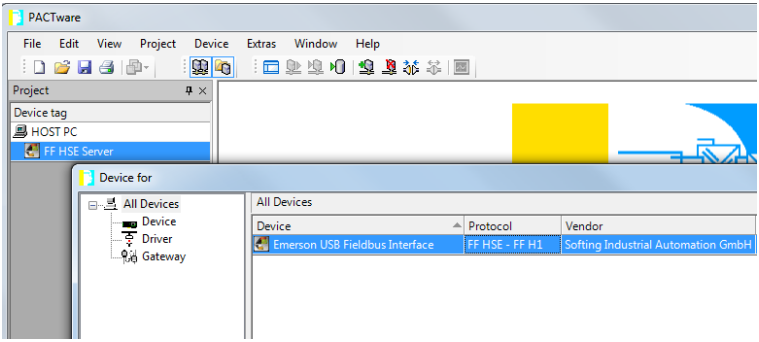
4. Right-click FF HSE Server on the Project pane and click Add device.

Figure 6-4: FF HSE Server - Add device



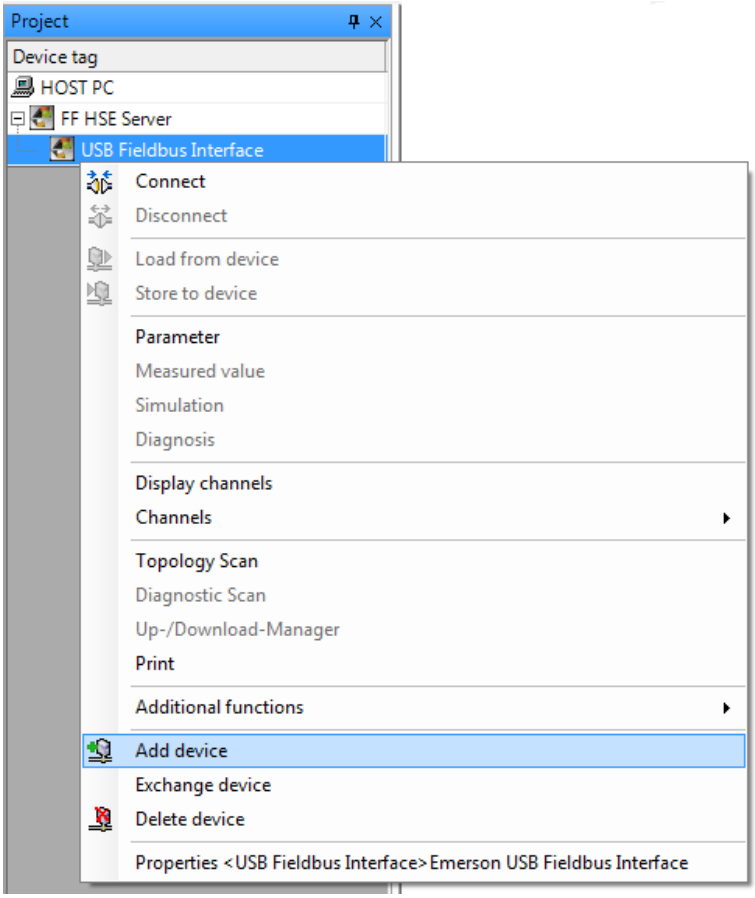
5. Select Emerson USB Fieldbus Interface and click OK.

Figure 6-5: Add the Emerson USB Fieldbus Interface



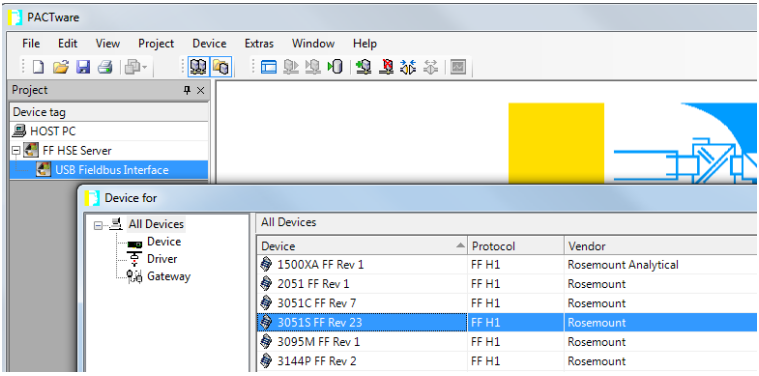
6. Right-click USB Fieldbus Interface on the Project pane and click Add device.

Figure 6-6: USB Fieldbus Interface - Add device



7. Select the device you want to add then click OK.

Figure 6-7: Add device

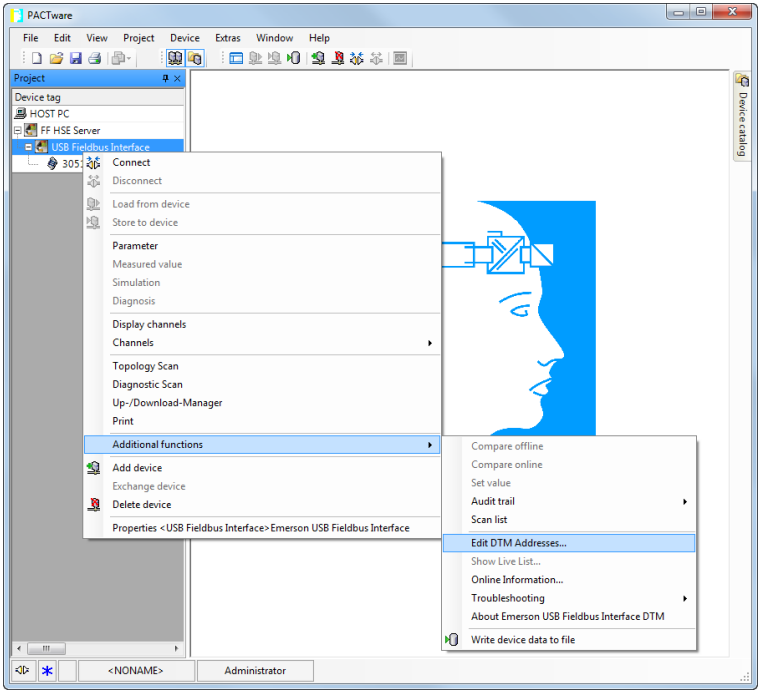


Only devices with DTMs available and installed appear on the list. For more information on DTM library installation, see *Section 3.4*.

Repeat steps 6 and 7 if you want to add more devices to the list.

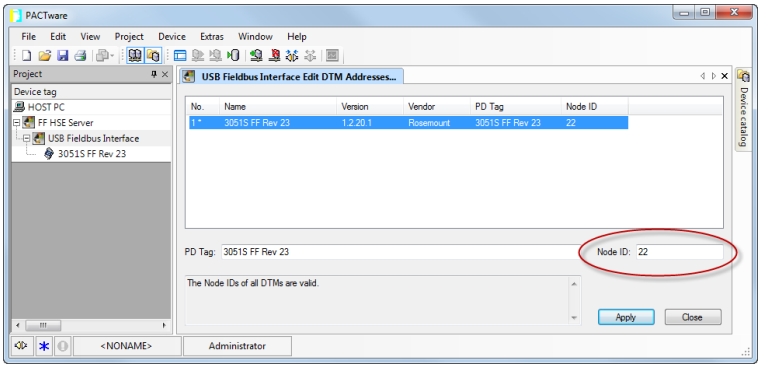
8. Right-click USB Fieldbus Interface and select Additional functions > Edit DTM Address.

Figure 6-8: Edit DTM Address



9. On the right pane, select the fieldbus device from the list, enter the device address in the Node ID field, and click Apply.

Figure 6-9: Enter Node ID

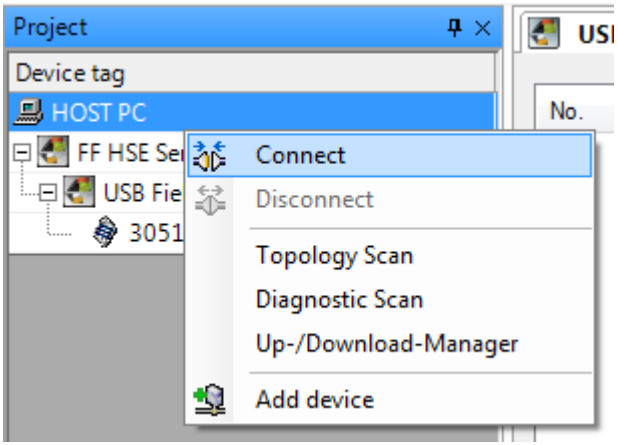

PACTware
File Edit View Project Device Extras Window Help
Project
Device tag
HOST PC
FF HSE Server
USB Fieldbus Interface
3051S FF Rev 23
USB Fieldbus Interface Edit DTM Addresses...
No. Name Version Vendor PD Tag Node ID
1 * 3051S FF Rev 23 1.2.20.1 Rosemount 3051S FF Rev 23 22
PD Tag: 3051S FF Rev 23
Node ID: 22
The Node IDs of all DTMs are valid.
Apply
Close
Device catalog
<NONAME>
Administrator

Note

The device address and Node ID should match. The device address is set and can be found in the Fieldbus Interface Configuration utility. For more information on setting the device address, see *Section 4.3*.

10. Right-click HOST PC and click Connect.

Figure 6-10: Connect devices

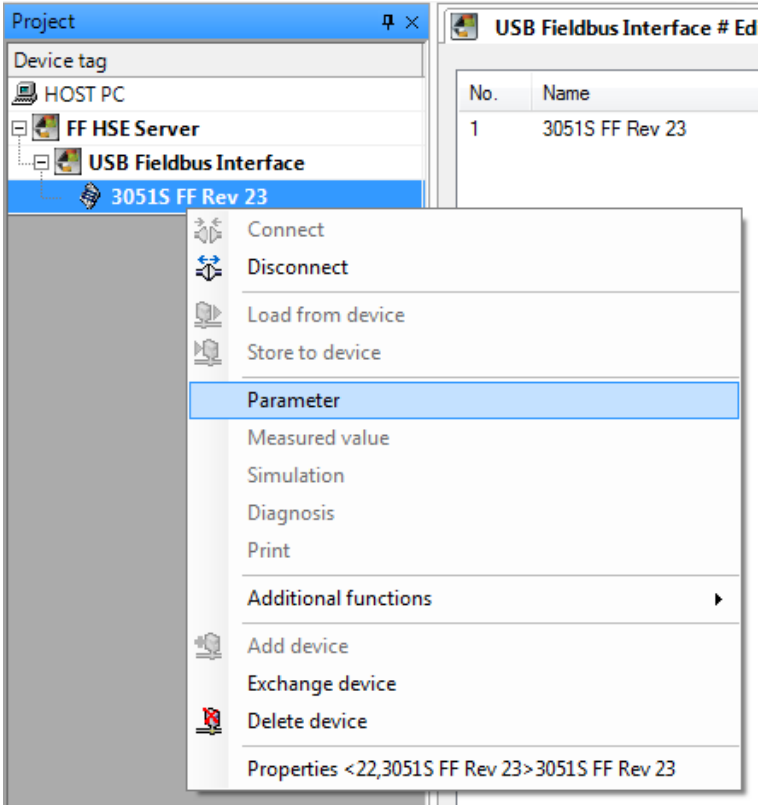


This connects all devices under the host PC. You can also opt to select each device you want connected and click Connect.

Connected devices appear in bold face type in the menu tree.

11. Right-click the fieldbus device you want to configure and click Parameter.

Figure 6-11: Parameter



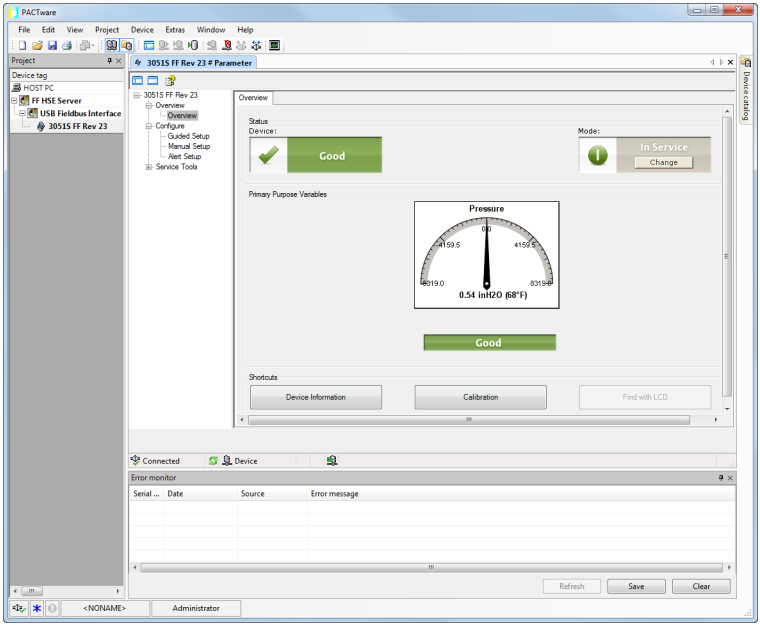
This displays the various parameters you can edit for the device.

12. Configure the parameters of the device.

Note

The parameter display varies and is dependent on the device manufacturer.

Figure 6-12: Edit device parameters



7 Troubleshooting

Topics covered in this chapter:

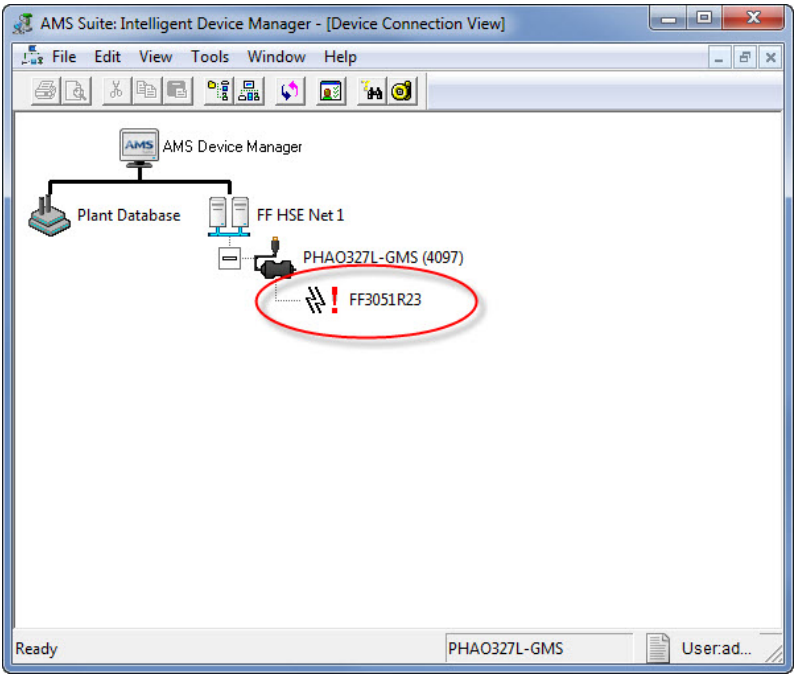
- *Fieldbus device not responding in AMS Device Manager*
- *Fieldbus device not detected in Fieldbus Interface Configuration utility*
- *Cannot edit device parameters in FDT Frame Application*

7.1 Fieldbus device not responding in AMS Device Manager

In order to configure a fieldbus device in AMS Device Manager, you must first commission the device in the Fieldbus Interface Configuration utility. For more information on commissioning a device, see *Section 4.3*.

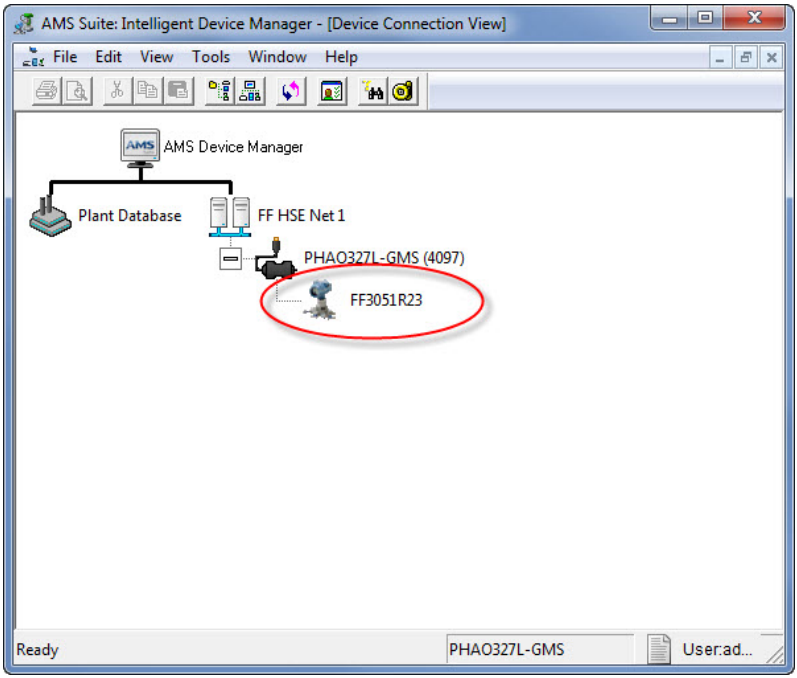
Uncommissioned devices are seen in AMS Device Manager as having the (non-responding device) icon and are characterized by an empty device tag or by the device default address.

Figure 7-1: Uncommissioned device in AMS Device Manager



Commissioned fieldbus devices appear with their own icons in AMS Device Manager and are characterized by a valid permanent address or by a valid device string.

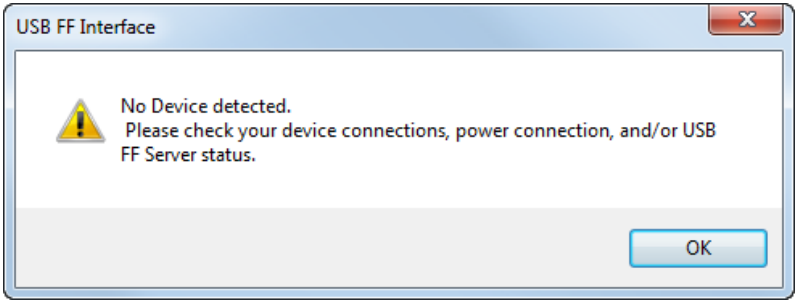
Figure 7-2: Commissioned device in AMS Device Manager



7.2 Fieldbus device not detected in Fieldbus Interface Configuration utility

The Fieldbus Interface Configuration utility immediately detects connected fieldbus devices. If 30 seconds have elapsed and no device is detected, the following dialog is displayed.

Figure 7-3: No device detected dialog


USB FF Interface
No Device detected.
Please check your device connections, power connection, and/or USB FF Server status.
OK

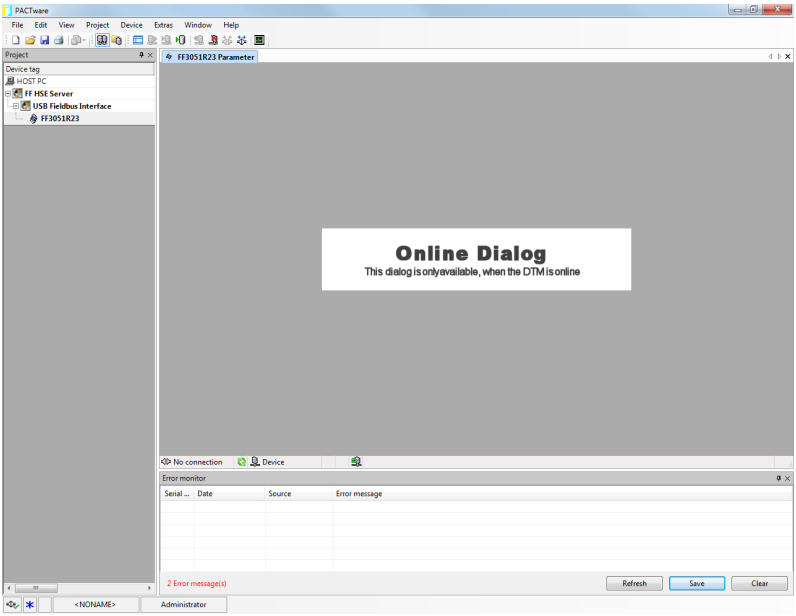
Click OK and check for the following:

- Make sure the fieldbus device or segment is powered either by an external source or by the USB Fieldbus Interface. For more information, see *Section 2.3*.
- Make sure drivers are installed and that the hardware is ready for use.

  If automatic driver installation fails, install drivers manually. For more information, see *Appendix D*.
- Check that there are no loose connections and that the USB cable does not exceed 2 meters in length.
- Make sure the USB FF HSE Server is running.

7.3 Cannot edit device parameters in FDT Frame Application

Figure 7-4: Cannot edit device parameters in PACTware



- Check the Node ID in PACTware and the Device Address in the Fieldbus Interface Configuration utility. The Node ID and Device Address should match. You may need to manually enter the Node ID in PACTware. For more information on entering the Node ID, see *Section 6.3*.
- Update the DTM library. If a new DTM is added, you may need to update the DTM library. For more information, see *Section 6.2*.
- Check physical connections. Make sure all devices are properly connected and have access to a power source. For more information, see *Section 3.5*.
- Commission the fieldbus device. For more information, see *Section 4.3*.

Appendix A
Approvals and certifications

Fieldbus Foundation Communication

FF Physical Layer Specification (IEC 61158-2)

FF Physical Layer Conformance Test (FF830)

CE

EN 61326-1-2006, Radiated Emissions Class B, Basic Immunity Test Requirements.

ETL (US and Canada)

Conforms to ANSI/UL STD 60950-1; Certified to CAN/CSA STD C22.2 NO. 60950-1.

IC

This Class B digital apparatus complies with Canadian ICES-003, Issue 4:2004.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

FCC

This device complies with Part 15 Subpart B of the FCC Rules. Operation is subject to the following conditions:

47 CFR, Part 15:2009, §15.107, §15.109, Class B

Any modifications made to this device that are not approved by Emerson Process Management may void the authority granted to the user by the FCC to operate this equipment.

Appendix B
Specifications

Software	
Supported operating systems	Windows 8.0 and 8.1 Windows 7 (32- or 64-bit) Windows XP Home or Professional (32-bit) SP3
USB 1.1 and USB 2.0 interface	Drivers included
Application software	
AMS Device Manager	Version 11.5 or later
License	
AMS Device Manager HSE license	Part number AW7060HSE
Electrical	
Power consumption (Mode 1)	≤ 0.2 W
Power consumption (Mode 2)	at 85 mA output current ≤ 2.5 W at 50 mA output current ≤ 1.7 W
Power supply to a fieldbus segment (in Mode 2)	85 mA at 10V
Environmental	
Operating temperature	-20 °C to 60 °C (-4 °F to 140 °F)
Storage temperature	-40 °C to 85 °C (-40 °F to 185 °F)
Storage humidity	0 to 95% relative humidity

Appendix C
Waste disposal

Products with the following label comply with the Waste Electrical and Electronic Equipment (WEEE) directive, 2002/96/EC, which applies to European Union (EU) member states only.

The label indicates this product should be recycled and not treated as household waste. Customers in EU member states should contact their Emerson sales representative for information on discarding any part of the USB Fieldbus Interface.

For customers in all other world areas, if it is necessary to discard any part of the USB Fieldbus Interface, follow the waste disposal regulations applicable in your location.

Appendix D
Install drivers manually

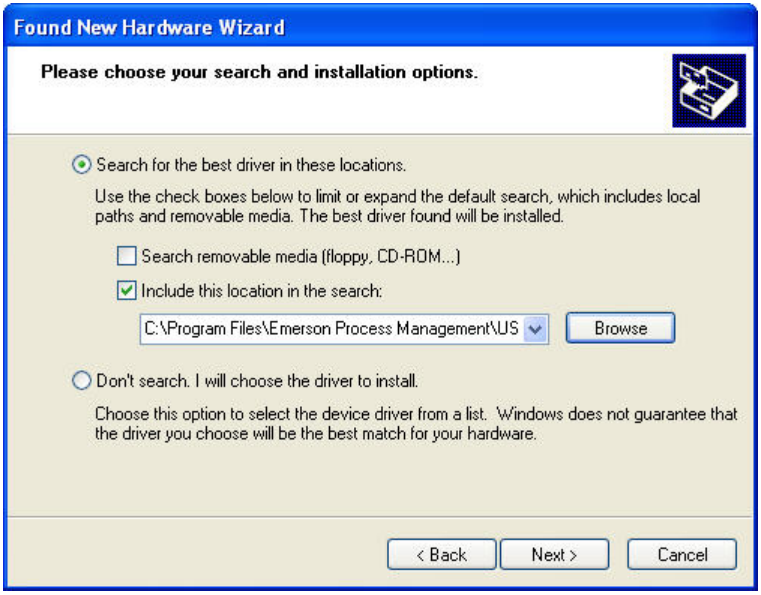
Notes

- If you have previously installed a pre-release version of drivers, follow the procedure in *Appendix F* first before installing new drivers manually.
- The following procedure only applies to Windows XP operating systems. On Windows 7 operating systems, drivers are automatically installed.
- There are two drivers that have to be installed manually; one for ports and another for USB controllers. You need to complete the driver installation on the Found New Hardware Wizard *twice* to install both drivers.

1. Connect the USB Fieldbus Interface to the computer using the USB cable provided.

   This facilitates manual installation of drivers through the Found New Hardware Wizard.
2. From the Found New Hardware Wizard, select the No, not this time option and click Next.
3. Select the Install from a list or specific location (Advanced) option and click Next.
4. Select the Search for the best driver in these locations option and select the Include this location in the search check box.

Figure D-1: Found New Hardware Wizard - Select driver location


Found New Hardware Wizard
Please choose your search and installation options.
Search for the best driver in these locations.
Use the check boxes below to limit or expand the default search, which includes local paths and removable media. The best driver found will be installed.
Search removable media (floppy, CD-ROM...)
Include this location in the search:
C:\Program Files\Emerson Process Management\US
Browse
Don't search. I will choose the driver to install.
Choose this option to select the device driver from a list. Windows does not guarantee that the driver you choose will be the best match for your hardware.
< Back
Next >
Cancel

5. Browse to where the drivers are located and click Next.

   The drivers are typically in *C:\Program Files\Emerson Process Management\USB Fieldbus Interface\Drivers*.

6. If a Windows Logo compatibility warning is displayed, click Continue Anyway to continue the driver installation.

   The wizard installs the driver.

7. Click Finish to close the wizard and start the second driver installation.

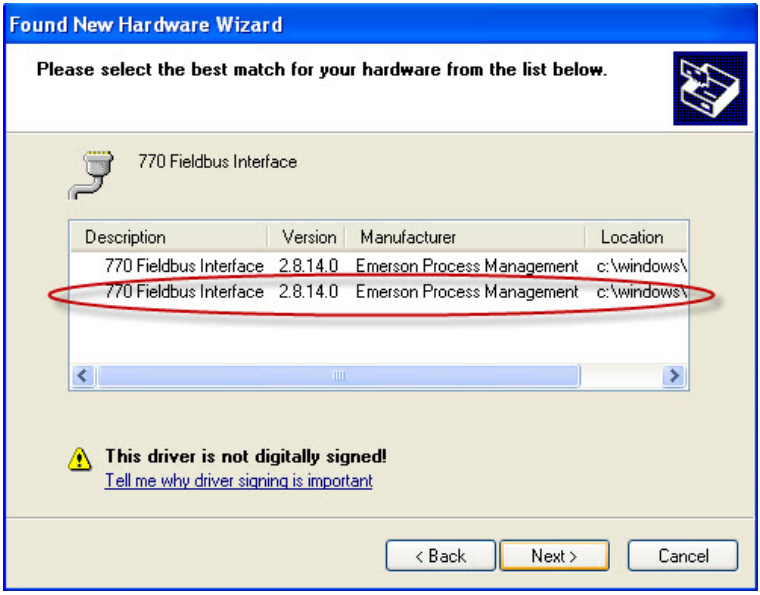
   After closing, the Found New Hardware Wizard opens again to install the second driver.

8. Repeat steps 2 through 7 to complete the second driver installation.

Note

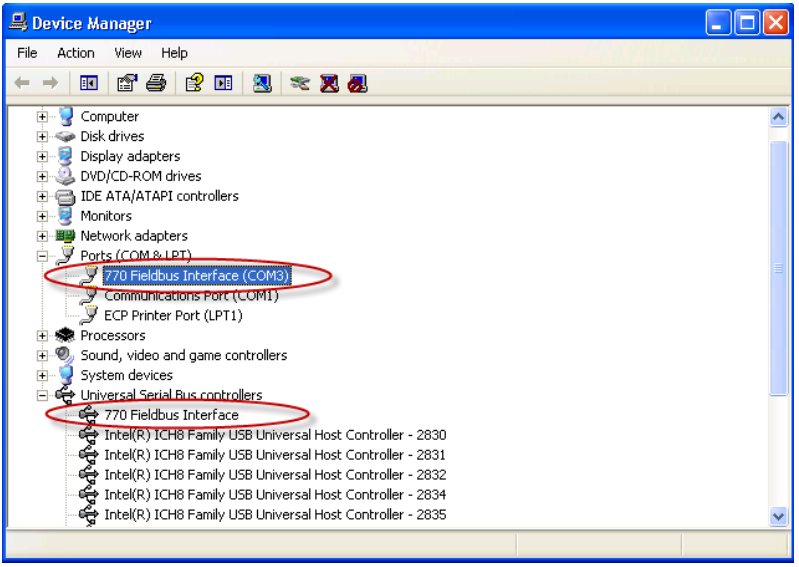
For the second driver installation, you may be prompted to select the driver that best matches the connected USB Fieldbus Interface. This happens when you have previously installed a pre-release version of the driver. Always select the second entry on the dialog, then click Next.

Figure D-2: Found New Hardware Wizard - Select best driver match


Found New Hardware Wizard
Please select the best match for your hardware from the list below.
770 Fieldbus Interface
Description
Version
Manufacturer
Location
770 Fieldbus Interface 2.8.14.0 Emerson Process Management c:\windows\
770 Fieldbus Interface 2.8.14.0 Emerson Process Management c:\windows\
This driver is not digitally signed!
Tell me why driver signing is important
< Back
Next >
Cancel

If you want to verify the proper installation of drivers, open Windows Device Manager and check that drivers are installed under Ports (COM & LPT) and Universal Serial Bus controllers sections.

Figure D-3: Windows Device Manager


Device Manager
File Action View Help
Computer
Disk drives
Display adapters
DVD/CD-ROM drives
IDE ATA/ATAPI controllers
Monitors
Network adapters
Ports (COM & LPT)
770 Fieldbus Interface (COM3)
Communications Port (COM1)
ECP Printer Port (LPT1)
Processors
Sound, video and game controllers
System devices
Universal Serial Bus controllers
770 Fieldbus Interface
Intel(R) ICH8 Family USB Universal Host Controller - 2830
Intel(R) ICH8 Family USB Universal Host Controller - 2831
Intel(R) ICH8 Family USB Universal Host Controller - 2832
Intel(R) ICH8 Family USB Universal Host Controller - 2834
Intel(R) ICH8 Family USB Universal Host Controller - 2835

Appendix E

Disable driver signature enforcement in Windows 8.0 and 8.1

1. Open the Windows 8 Charms bar.
2. Click Settings > Change PC settings.
3. From the PC Settings window, select General on the left panel.
4. On the right panel, locate Advanced startup and select Restart now.
5. From the Choose an option menu, select Troubleshoot.
6. From the Troubleshoot menu, select Advanced options.
7. From the Advanced options menu, select Startup Settings.
8. Click Restart and select Disable driver signature enforcement.

Appendix F

Remove pre-release driver versions on a Windows XP operating system

1. Click Start > Control Panel > Add or Remove Programs.
2. Select 770 USB Serial Converter Drivers from the list, and then click Change/Remove.

   If 770 USB Serial Converter Drivers is not on the list, proceed to *Step 4*.
3. Follow the prompts on the uninstallation window, then click Finish.
4. If necessary, uninstall the drivers using Windows Device Manager:

   a. Launch Windows Device Manager (Start > Run, type devmgmt.msc, and click OK).

   b. Expand Ports (COM & LPT).

   c. Connect the USB Fieldbus Interface to the computer through the USB port and wait a few seconds to see if 770 Fieldbus Interface (COMxx) appears on the list. If it does not, proceed to *Step 5*.

   d. Right-click 770 Fieldbus Interface (COMxx), and select Uninstall.

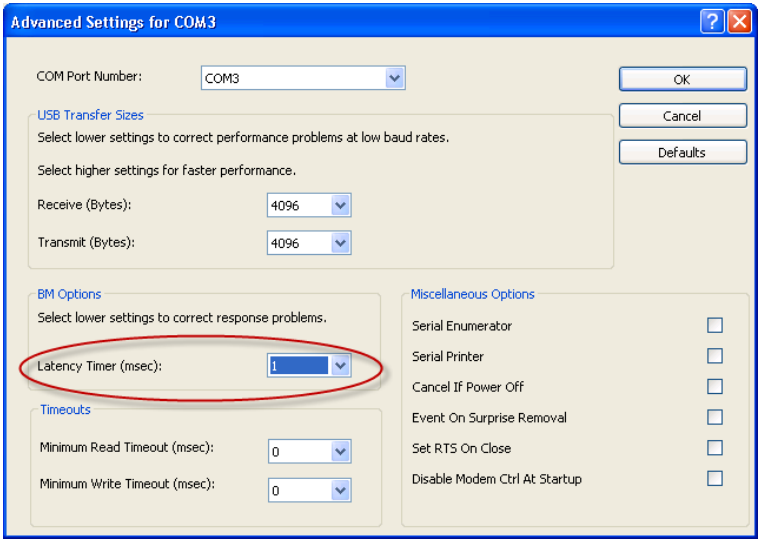
   e. Click OK to confirm the driver removal.

   f. Expand Universal Serial Bus controllers, right-click 770 Fieldbus Interface, and select Uninstall.

   g. Click OK to confirm the driver removal.
5. After removing previous driver versions, install current drivers manually.

   Follow the procedure in *Appendix D*.
6. After installing current drivers, open Windows Device Manager.
7. Expand Ports (COM & LPT), right-click 770 Fieldbus Interface (COMxx), and select Properties.
8. From the Port Settings tab, select Advanced.
9. From the BM Options section, set the Latency Timer value to 1 and click OK.

Figure F-1: Advanced Settings for COMxx dialog



10. Click OK to close the Properties dialog.

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User's Manual
Part Number: AW7060MNL, rev. 2
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Emerson Process Management
12001 Technology Drive
Eden Prairie, MN 55344 USA
T 1(952)828-3633
F 1(952)828-3006
www.EmersonProcess.com

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